

Round the Soviet Union

● THE SECOND LAST 107,000 KW POWER BLOCK OF THE DNIESTER HYDROPOWER STATION IN THE UKRAINE HAS JUST BEEN PUT INTO OPERATION. The project will not only help build up the power potential of this country, but will also help tame the river whose flooding has been causing extensive damage. It will also irrigate more than half a million hectares of land in the southern Ukraine and neighbouring Moldavia.

● A SESSION OF THE GENERAL COUNCIL OF THE INTERNATIONAL COMMISSION FOR THE NORTH-WEST ATLANTIC FISHERIES HAS ENDED IN LEHINGRAD. It was attended by delegates from 13 countries of Europe, Asia and America, on EEC delegation, and by observers from a number of countries and international organizations.

● THE KURDISH PEOPLE'S THEATRE IN THE VILLAGE OF ALAGYAZ IN ARMENIA HAS LAUNCHED ITS FIFTIETH SEASON WITH THE PRODUCTION OF THE FOLK EPIC, "MAME AND ZILE". Feroz Aramio, which has 40 thousand Kurds, is justly regarded as a centre of Kurdish culture. It was here that the first Kurdish textbook, "Shime", was written. There is a department of Kurdish philology and history of Yerevan University and books by modern Kurdish authors are published. The Armenian Union of Writers has a section of Kurdish literature.

Across seas and oceans

A powerful floating dock arrived at the Datzavod ship repair from Sevastopol after being towed across nine seas and two oceans. The unique ship-lifting structure was towed by three rescue vessels in a convoy which was one kilometre long. The crew had to exercise their ingenuity in narrow straits and high seas. With these difficulties safely behind, Datzavod is now able to repair ships of practically any deadweight.

FROM THE SOVIET PRESS

THE OIL OF TYUMEN

There was a time when the West predicted the Soviet Union would fail to independently develop its oil industry. To meet necessary requirements, writes PRAYDA. The experience of the unprecedented boosting of oil extraction both in speed and scale in the Tyumen North in Western Siberia using homemade machinery certainly refutes that contention.

Sceptics argued that it would take scores of years before Siberian oil reserves would be opened up. But less than 20 years have passed since commercial production began there. The Tyumen oilmen are already extracting a million tonnes a day.

Over the first three years of the current five-year plan period (1981-1985) the output growth rate will have reached nearly 20,000,000 tonnes. Large towns like Surgut, Nizhnevortovsk and Nefteyugansk have sprung up on the primordial tracks and hundreds of kilometres of oil and water roads have been laid, power lines strung, and huge construction and production bases and ports built, the paper points out.

In a way the difficulties the construction crews had to contend with in that rigorous climate stimulated their inventiveness. For example, the usual drilling methods involving heavy oil barrels proved unsuitable for the Tyumen marshes, so the scientists suggested using a single platform from which to bore several down-hill wells which reach up to 100 metres deep. This multiple drilling technique (some oil fields have up to 80 wells in the same place) is now being used in other oil-bearing regions, the paper adds.

SOLAR POWER IN THE STEPPES

It would now be difficult to mention a region of agriculture where solar energy could not be used to advantage, writes ISVETIA. The first solar installations, such as solar driers, which were built

for herds of sheep first appeared in the Central Asian republics where the weather is sunny and hot most of the year. Solar installations have been commissioned at cattle farms in the Stavropol Region of the Russian Federation in the European part of this country. It turns out that in the conditions of the southern steppes the sun power equipment of farms works 270 days a year. The paper notes that there is no need for the solar to be blue and cloudless. The solar installations can capture and put to use even scattered sunrays which reach the earth through thick clouds.

Scientists continue to find more and more applications for solar energy in the countryside. They devise solar installations for speeding up the drying of hay and grain, for air-conditioning of storage warehouses for agricultural produce, for heating bathhouses, etc. In fact, they are seeking to make the utmost use of the sun and thereby saving other types of energy, says the paper.

THE BLACK SEA—INTERCOSMOS

The international interdisciplinary experiment, The Black Sea—Intercosmos, has been reviewed for the first time, writes SOTSIALISTICHESKAYA INDUSTRIYA.

Experiments were conducted simultaneously by cosmonaut Vladimir Lyakhov and Alexander Alexandrov on board the Soyuz-7 orbital station and on board an AN-80 plane. A number of scientific research vessels, a stationary oceanographic platform, and other facilities—Molotov-Prudokh and Intercom-Bulgaria—participated in the experiment. The station, the plane, the ship, the platform, the GDR, Mongolia, Poland, Romania and the Soviet Union. The station, the plane, the ship, the platform, the GDR, Mongolia, Poland, Romania and the Soviet Union. The station, the plane, the ship, the platform, the GDR, Mongolia, Poland, Romania and the Soviet Union.

Interest for scientists and which will prove useful for navigation, fishing and extraction of minerals in seas and oceans. Scientists and specialists from the Soviet Union who took part in the experiment have begun processing materials which will make it possible to develop methods for remote measurements of different characteristics of the ocean and the atmosphere, says the paper.

MERCURY MARKS MINERAL DEPOSITS

Soviet scientists have come up with an original and simple method for exploring for mercury deposits which has been registered with the USSR State Committee for Inventions and Discoveries. The method boasts a one-hundred per cent success rate in finding this valuable metal thus enormously cutting the cost of prospecting, writes the newspaper TRUD.

It has been discovered that a mercury deposit gives off a sort of gas "halo" which is quite possible to be detected by means of a special device. The method is that it is used to predict earthquakes. The principle of the discovery has proved that the concentration of mercury vapour increases in the proximity of an earthquake. It turns out that the mercury halo is also present over oil fields. The concentration of mercury in such a halo has the same pattern as the concentration of oil. The deposits of non-ferrous metals and other minerals can be found by this method. This method can be used to look for useful minerals.

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THE MILLIONTH TONNE

The millionth tonne of oil was extracted at the 28 April off-shore oil field, the deep in the Caspian Sea. The oil has also proved to be the best, or the mildest, as it was produced using only the wells whose daily output is hundred and more tonnes of the valuable raw material.

Four shafts have been drilled in the field from a specially built platform which was lowered to the depth of 8 metres. This was followed by a still deeper-going platform, drilled over a hundred metres of water. At present, there is a platform under construction with underwater shafts 112 metres long.

The off-shore oil extraction at the 28 April oil field is a range for testing new drilling technology.

Each step into the deep means new designs, technology and consistent efforts to overcome the resistance of the elements. The second platform from which two shafts were drilled at one time have 12 shafts. Twice as many will be drilled from the platform.

The development of the oil field also continues from the platform.

FLAVOURED HARVEST

Two gathering of geologists has begun in the Dnieper Valley in Tajikistan in Central Asia.

The aromatic petals of flowers are used to produce highly valued in the perfume industry. Tajikistan is one of the major suppliers of this. The growing and processing of the harvest has been placed on an industrial basis with the establishment of specialized factories and factories.

Scientists are taking an active part in the development of the industry. They have produced a new hybrid of rose geranium which has a distinctly high oil content. A tonne of its seed mass yields up to three grammes of the valuable product. This year, Tajikistan expects to gather 25 tonnes of valuable raw materials.

Places to visit

At the Moscow Planetarium

The Moscow Planetarium is always full of people, with children and grown-ups eager to learn about mysterious outer space. They are also curious to look through the telescope of Venus on a sunny day, to find out what time it is on the sun, and to see the metal with the help of the sun. The building of the Planetarium attracts visitors with its egg-shaped, all-over-cast-iron dome. It was built in the constructivist style by architect Mikhail Baruch in 1928.



made in the GDR. At the Planetarium see celestial lectures on the structure of the Milky Way, on galaxies, on weather forecasts, on the origins of the constellations, and to expand one's ideas about the Universe.

A TRUE LANGUAGE OF FRIENDSHIP

"I live on the international collective farm", this was the subject of a composition written in Russian by pupils of ten schools in School No. 21, Kailashan, Turkmenia. In it they wrote about the friendship which unites Turkmen, Uzbeks, Ukrainians, Uigurs, Tatars and Korakhs working side-by-side on the farm. The Russian language has brought them together in one big family — a true language of brotherhood. For nearly 40 years it has been taught at the school by M. Bisenov, who has educated more than one generation of children.

Bisenov wants to the front as a young soldier together with his Kazakh friend, D. Kaldykarayev, to defend the Motherland from the 1941 fascist invasion. He has always considered Russian as a symbol of his native land. The school where he teaches was named after his fellow friend who was awarded the distinction, Hero of the Soviet Union.

The deepest in the world?

It is generally believed that the time of geographic discoveries has passed, but apparently there are still virgin spots on the planet, where no man has stepped.

An expedition of speleologists has returned to Moscow, after studying one of the deepest caves in the world—the cave Suezhnaya situated in the Western Caucasus. A year ago the expedition made a descent into the cave to a depth of 1,335 metres. A stone obstruction blocked further study.

This time the expedition decided to check the hypothesis that the Mezhenyaya cave, next to the Suezhnaya, discovered only a few years ago, is linked together deep under ground into a single and rather lengthy labyrinth. The confirmation of this theory will help in an important discovery—the proof of the existence of a cave in the Caucasus, which in its depth ranks second to the world.

Descending to a depth of 630 metres, speleologists passed more than 500 metres along the cave. They had to move along the bed of a mighty underground river, with numerous rapids and waterfalls along the vertical walls of the cave. Water and air temperature did not exceed 3-4 degrees Celsius. The river led to a huge underground hall, but so far no link-up with the Suezhnaya cave has been found. The next expedition will continue studying the unique cave system.

More importantly chess turned out to be a fine vehicle for character-building. Those noted for their restlessness and lack of attention showed improvements in concentration after taking up the game.

CHESSMEN IN A RUCKSACK

12,000 second formers in Volgograd secondary schools will have regular chess lessons from the beginning of this school year.

The lessons are not merely designed to provide distraction for the pupils; scientists have found that after formal logic lessons were scrapped from the curriculum, having been thought to be excessive.

STUDENTS' SPUTNIK

A minor artificial Earth satellite, the S-3 was separated from the S-2 from the orbital complex S-2-Soyuz T-7-Progress-16, launched by the USSR cosmonaut A. Berezovoi and V. Lebedev and sent into cosmic orbit. S-3 was developed by students of the students' design bureau at Moscow's Sergo Orlovskiy Aviation Institute.

About 70 people — students, young scientists and teachers of the institute along with a large group of amateur radio operators from Kaluga — the staff of some equipment laboratory in the Ministry of Cosmonautics — took part in the development of the satellite.



Coupled.

Science and technology

COMPUTER INTERVIEWS

PATIENTS

An automated system of initial diagnosis of cardiovascular diseases, called Autointerview, has gone into operation in Latvia, a Union republic on the shores of the Baltic Sea.

The system is meant to reveal the six main groups of cardiovascular diseases on the basis of data obtained from the general condition of a patient. The questions requiring answers are put by a computer and not a doctor. On a special screen the questions and a list of possible replies under separate numbers are illuminated. The patient goes through them, analyses his condition, then presses a corresponding button. Depending on his replies the computer might choose other questions which "interest" it. This dialogue lasts from 5 to 15 minutes. Then the machine prints the contemplated diagnosis and disease prevention recommendations.

EXTRAPURE WATER

A technique which will prove to be economical in producing extrapure water has been developed at the Siberian Branch of the Academy of Sciences of the USSR, in Novosibirsk. It is incorporated in a plant which allows the purification of water virtually free from salts. The problem of colloid particles and the removal of microorganisms has been solved to a large extent, too. Unlike conventional methods, this new technology of filter regeneration uses an electric field instead of acids and alkalis which are pollutants in themselves.

Water of this purity is needed in electronic processes, as well as in chemical and other productions.

TAIGA SHOULD BE PRESERVED

A 2,000 plus hectare stretch of the Siberian taiga near the industrial city of Novosibirsk has been turned into a reserve, with a ban being placed on wood cutting, hunting, the laying of tracks, and any land-improvement or other related activities.

Scientists and forest specialists will use it as a natural model to study many processes influencing the formation and development of the taiga, specifically, the way in which the woods absorb the elements there and the changes in various tree species.

Studies in this ideal taiga spot could prove invaluable in the reconstruction and enrichment of Siberian flora and fauna.

VIEWPOINT

Land improvement: problems and achievements

Ivan BORODAVCHENKO,

Deputy Minister of Land Improvement and Water Conservation

The aim of the comprehensive long-term land improvement programmes now being designed in this country is to create a guaranteed food base which would not be affected by adverse weather and natural disasters. This is certainly necessary as Soviet agriculture develops in conditions far worse than those in the United States, for instance, or in many European countries.

Some areas of this country, like Fozeye in Byelorussia, the Non-Black Soil Area, the Far East in the Russian Federation, the Baltic republics, and Kaliningrad on the Black Sea coast suffer from excessive moisture, and plans are underway to drain these areas. Irrigation, on the other hand, is needed over vast territories in the south and south-west of the Soviet Union, in places like the Central Asian republics, Kazakhstan, the Transcaucasia, the Southern Ukraine, and the Northern Caucasus.

Meatification has become a powerful tool in man's tolerance of nature. Proliferating growing various crops have come to life in what used to be steppes and deserts, such as the Hungary, Karshi and Dzhrak steppe in Uzbekistan, the zone of the Karam Canal in Turkmenia and others which for centuries were arid and waterless.

New settlements have now sprung up in these areas housing luxurious orchards and open spaces. Another example is provided by the huge area of the Azov in the Krasnodar Territory of the Russian Federation. For centuries the only vegetation in the flooded meadows and deltas of major rivers was reeds and other plants. What used to be bog has now been 100 thousand hectares of rice and different forage crops.

The scale of improvement has been growing, particularly over the past few decades. The area of irrigated and drained lands on collective and state farms is 32 million hectares, or twice as much as early in 1960. Occupying 11 per cent of the arable lands and personal plantations in this country, improved lands yield one-third of the output of farming. These tracts of land produce the entire crop of cotton and rich two-thirds of the vegetables, nearly half of the fruit, and one-fourth of the forage produced in the Soviet Union.

By the end of this five-year plan period in 1985, the area of irrigated and drained lands will be more than 38 million hectares. This work is continuing throughout the country.

In the areas of irrigated land, increases are expected in the guaranteed production of grain, the output of forage for animals, and the yield of vegetables, fruit and berries. We shall complete the reclamation of the zone of the steppe, the reclamation of swamps, salt marshes, and other lands.

